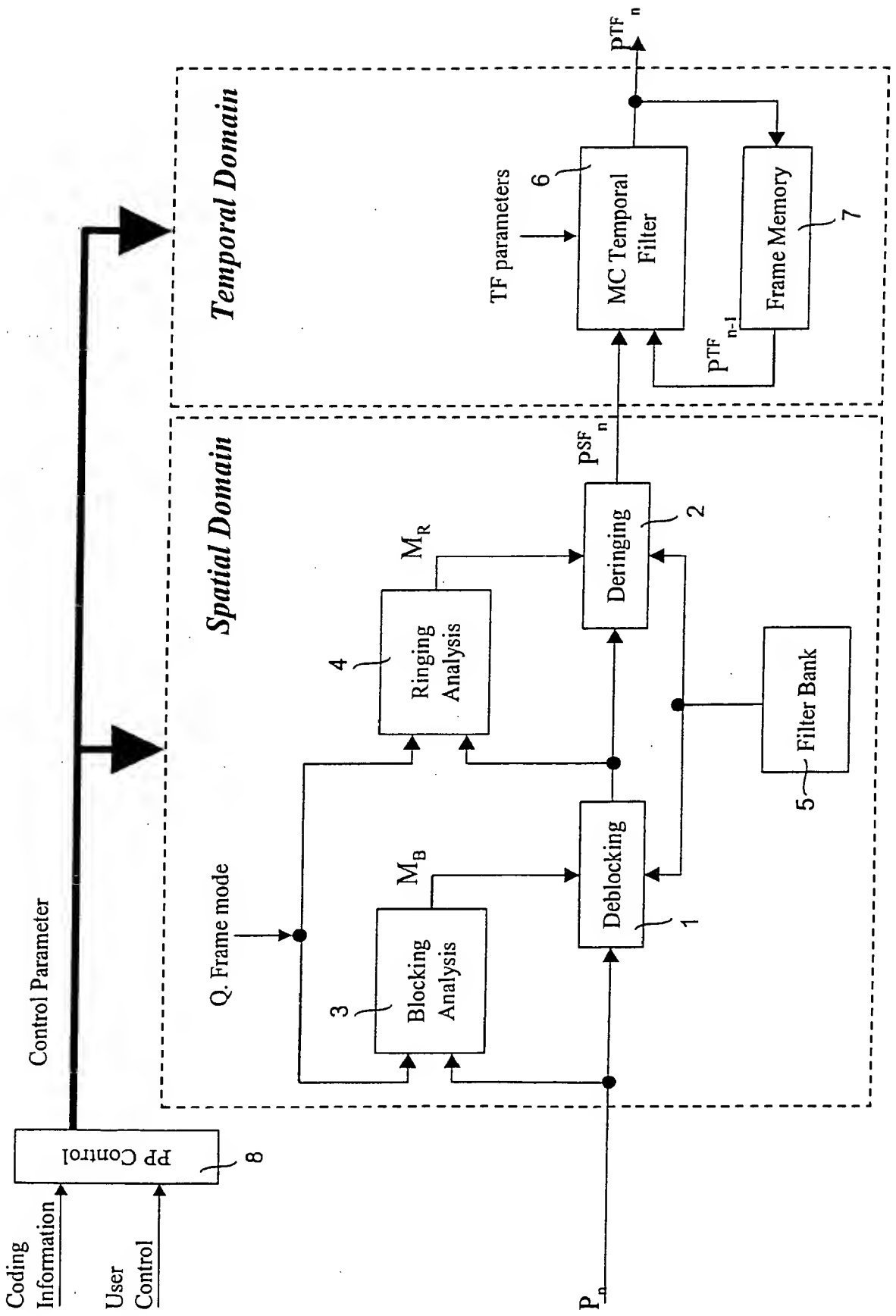

Temporal Domain
Spatial Domain
Control Parameter
Coding Information
User Control
PP Control
8
Q. Frame mode
Deblocking
1
Deringing
2
Blocking Analysis
3
Ringing Analysis
4
Filter Bank
5
MC Temporal Filter
6
Frame Memory
7
TF parameters
M_B
M_R
P_n
PSF_n
PTF_n
PTF_{n-1}

Fig. 1

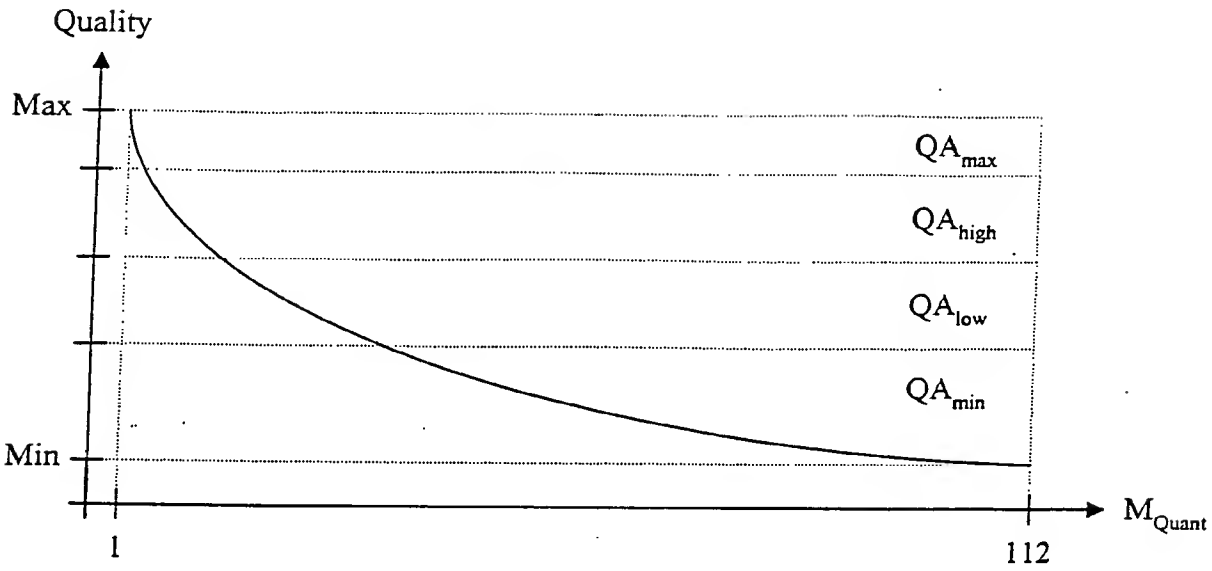


Fig. 2

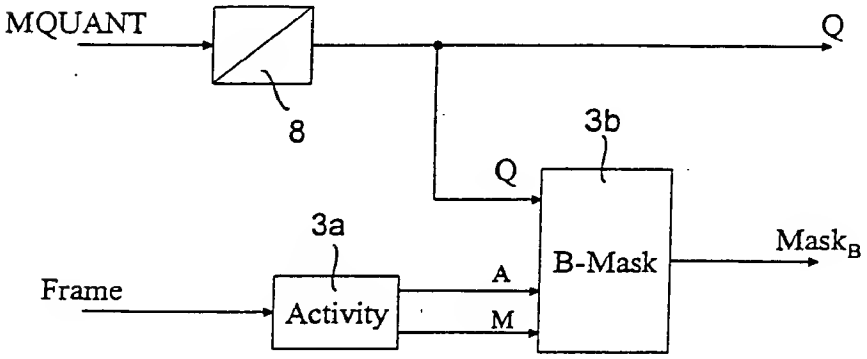


Fig. 3

Fig. 3

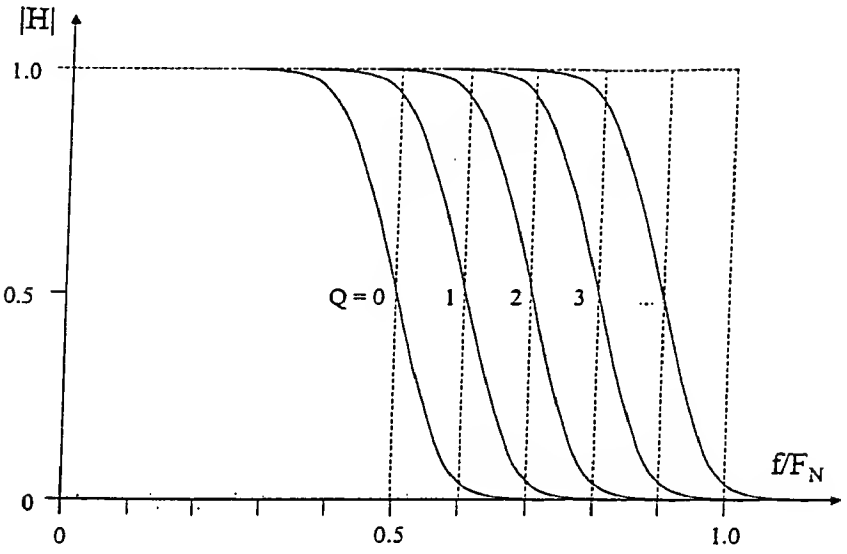


Fig. 4

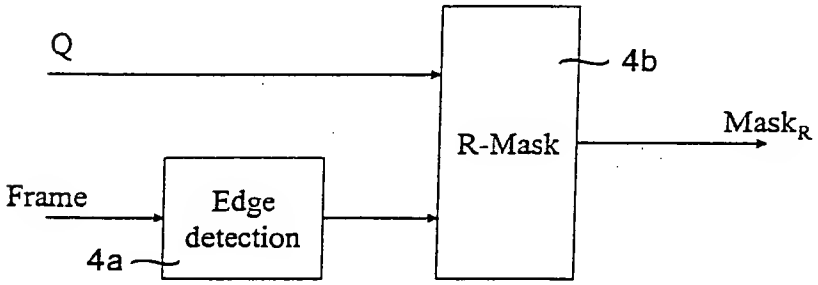


Fig. 5

for QA_{min}, QA_{low} and QA_{high}

Filter =

1	2	1
2	W	2
1	2	1

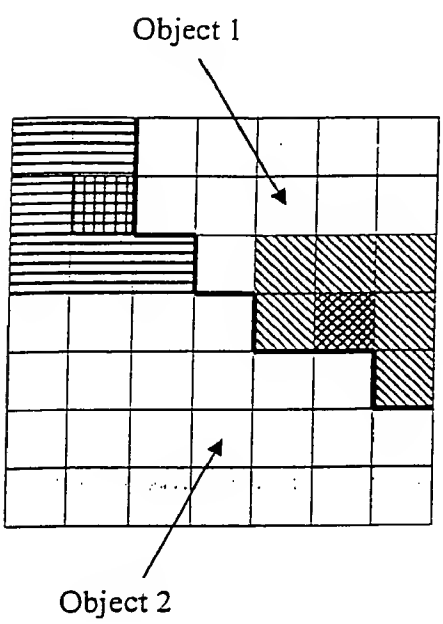
$$W = \begin{cases} 4 & ; \text{for } QA_{min} \\ 8 & ; \text{for } QA_{low} \\ 16 & ; \text{for } QA_{high} \end{cases}$$

for QA_{max}

Filter =

0	0	0
0	1	0
0	0	0

Fig. 6



Pixels contributing to the filtering of

$$F = \begin{array}{|c|c|c|} \hline f_{-1,-1} & f_{0,-1} & f_{1,-1} \\ \hline f_{-1,0} & f_{0,0} & f_{1,0} \\ \hline f_{-1,1} & f_{0,1} & f_{1,1} \\ \hline \end{array}$$

$$P^{new}[p][l] = \frac{\sum_{j=-1}^{1}\sum_{i=-1}^{1} P[p+i][l+j]\cdot f[i][j]\cdot \delta_R}{\sum_{j=-1}^{1}\sum_{i=-1}^{1} f[i][j]\cdot \delta_R}$$

with :

$$\delta_R = \begin{cases} 1 & \text{if } P[p+i][l+j] \text{ and } P[p][l] \text{ in same region} \\ 0 & \text{otherwise} \end{cases}$$

Fig. 7

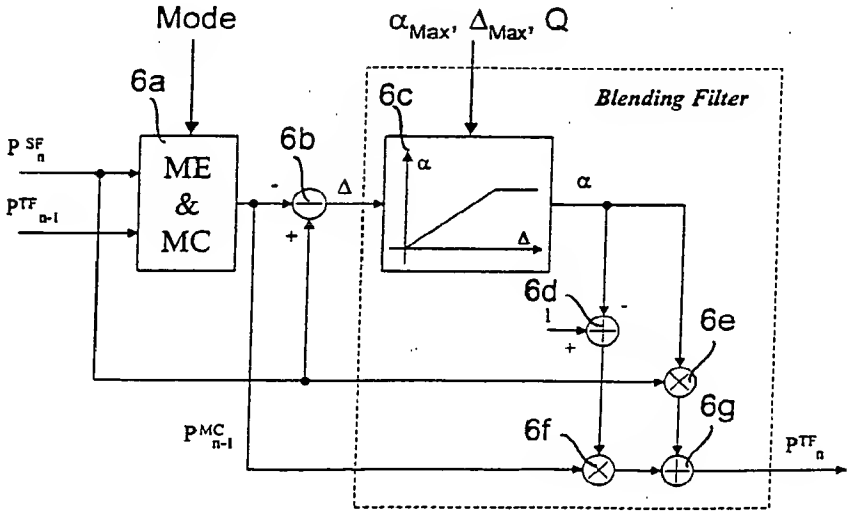


Fig. 8

EP 1 521 471 A2

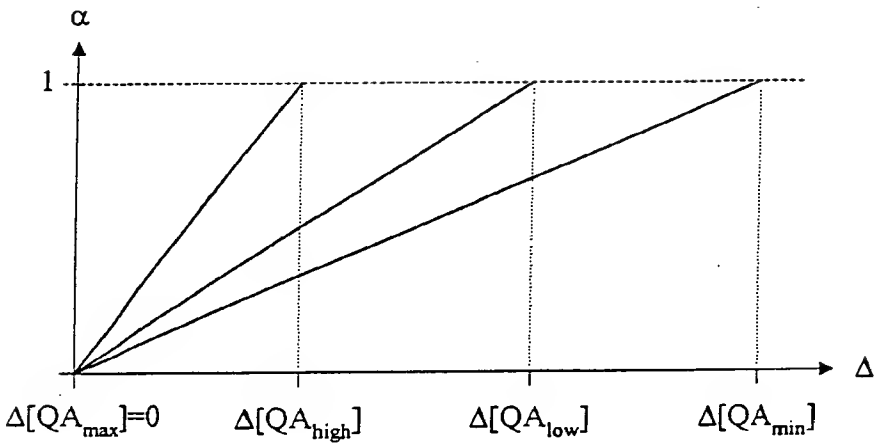


Fig. 9